

CLAIMS

1. A polarizing electrode composed of a carbon composite, wherein, as
5 a carbon material of said carbon composite, a single-layer carbon nanohorn
aggregate, which is made in such a manner that the single-layer carbon
nanohorns are aggregated spherically, is used.

2. The polarizing electrode according to claim 1,
wherein said single-layer carbon nanohorn is a single-layer graphite
10 nanohorn.

3. The polarizing electrode according to claim 1,
wherein said single-layer carbon nanohorn aggregate is supported by a
carbon fiber or a carbon nanofiber.

4. The polarizing electrode according to claim 3,
15 wherein, by allowing a front end of said single-layer carbon nanohorn
composing said single-layer carbon nanohorn aggregate to be fused to said
carbon fiber or said carbon nanofiber, said single-layer carbon nanohorn
aggregate is supported by said carbon fiber or said carbon nanofiber.

5. A manufacturing method of a polarizing electrode composed of a
20 carbon composite including a single-layer carbon nanohorn aggregate made in
such a manner that the single-layer carbon nanohorns are aggregated spherically
as a carbon material, comprising a step of:

obtaining said carbon composite by molding a mixture of said single-
layer carbon nanohorn aggregate and a heat fusible and heat hardening phenol
25 resin at 80 - 120 °C, and carrying out a heat treatment in a no-oxidizing
atmosphere.

6. A manufacturing method of a polarizing electrode composed of a
carbon composite including a single-layer carbon nanohorn aggregate made in
such a manner that the single-layer carbon nanohorns are aggregated spherically

as a carbon material, comprising a step of:

obtaining said carbon composite by molding a mixture of said single-layer carbon nanohorn aggregate, a heat fusible and heat hardening phenol resin, and a heat infusible phenol resin of a weight ratio of 15 to 60 % with respect to the heat fusible and heat hardening phenol resin, and carrying out a heat treatment in no-oxidizing atmosphere.

7. An electric double-layer capacitor comprising a polarizing electrode, wherein said electric double-layer capacitor comprises a polarizing electrode composed of a carbon composite including a single-layer carbon nanohorn aggregate made in such a manner that the single-layer carbon nanohorns are aggregated spherically as a carbon material.